

REMARKS/DISCUSSION OF ISSUES

By this amendment, claims 1, 4 and 5 are amended for clarification, claim 16 is added, and claim 10 is canceled without disclaimer of the underlying subject matter or prejudice against subsequent prosecution.

Accordingly, claims 1-9 and 11-16 are pending in the application.

Reexamination and reconsideration are respectfully requested in view of the following Remarks.

35 U.S.C. § 112

By this Amendment, Applicants amend claim 4 for clarification, in accordance with the description in the specification (e.g., page 4, line 33- page 5, line 2; page 3, lines 7-8).

Accordingly, Applicants respectfully submit that the rejection of claim 4 under 35 U.S.C. § 112 is now moot, and therefore respectfully request that it be withdrawn.

35 U.S.C. § 103

The Office Action rejects claims 1-9 and 13 under 35 U.S.C. § 103 over Tamaki U.S. Patent 4,461,003 ("Tamaki") in view of Koch U.S. Patent 5,367,665 ("Koch"); and claims 11-12 and 14-15 under 35 U.S.C. § 103 over Koch in view of Anderson U.S. Patent 6,263,453 ("Anderson").

Applicants respectfully traverse those rejections for at least the following reasons.

Claim 1

Among other things, the method of claim 1 includes storing at least one set of statistics relating to the operation of the microcontroller unit, including at least a set of fault statistics for the microcontroller, by means of a non-volatile memory area.

The Office Action fairly admits that Tamaki does not disclose this feature.

However, the Office Action states that Koch teaches a system that contains two processors that error check each other and count reset events and that it would have been obvious to modify Tamaki such that it contains two processors and saves a count of reset events as taught by Koch.

Even assuming arguendo that this was true, it would not produce the method of claim 1.

The method of claim 1 includes storing at least one set of statistics relating to the operation of the microcontroller unit, including at least a set of fault statistics for the microcontroller, by means of a non-volatile memory area.

Nothing in Koch, or Tamaki, or any combination thereof suggests storing at least one set of statistics relating to the operation of the microcontroller unit, including at least a set of fault statistics for the microcontroller, by means of a non-volatile memory area. Although the Office Action notes that Tamaki's microcomputer 500 includes a non-volatile memory area 504 (as well as a separate volatile memory area 502), there is nothing in Koch, or Tamaki, or any combination thereof that suggests storing at least one set of statistics relating to the operation of the microcontroller unit, including at least a set of fault statistics for the microcontroller in Tamaki's non-volatile memory area 504.

Indeed, to the contrary, Koch discloses a system wherein the processor includes an "internal counter" for the processor that counts resets that are transmitted to the processor. That is, in Koch the count of reset signals is maintained in an internal counter of the processor, not in any separate memory, and particularly not in a non-volatile memory area.

The Office Action fails to explain where, why or how any rationale is found in the prior art for modifying Koch's specific teaching of maintaining the count of reset signals in an internal counter of the processor, to instead store this count in a separate non-volatile memory area. Indeed, this would seem to be counterproductive to Koch's purposes, because if the counter value is not dumped whenever the vehicle is shut down, then if the pre-given maximum number of resets is ever received by one processor during its lifetime, then the processor would be permanently transferred into a standby condition!

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over the cited art.

Claims 2-4 and 13

Claims 2-4 and 13 depend from claim 1 and are deemed patentable for at

least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Claim 4

Among other things, the method of claim 4 includes permitting the non-volatile memory area to be read from at any time, and permitting the non-volatile memory area to written to only while the system is starting.

The Office Action states that Tamaki teaches that the vehicle battery is checked and read and write access to non-volatile RAM 504 is disabled when the voltage is low.

This is very clearly not what is recited in claim 4 – either before or after this amendment.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 4 is patentable over the cited art.

Claim 5

Among other things, the base chip of claim 5 includes at least one non-volatile memory area that can be read from and written to by the microcontroller unit, and by means of which at least one set of fault statistics relating to operation of the microcontroller unit, can be produced.

As explained above with respect to claim 1, no proper combination of Tamaki and Koch discloses or suggests any base chip that includes a non-volatile memory area that stores at least one set of fault statistics relating to operation of the microcontroller unit.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 5 is patentable over the cited art.

Claims 6-9

Claims 6-9 depend from claim 5 and are deemed patentable for at least the reasons set forth above with respect to claim 5.

Claims 11-12 and 14-15

Claims 11-12 and 14-15 depend variously from claims 1 and 5. Applicants respectfully submit that Anderson does not remedy the shortcomings of Tamaki and Koch as set forth above with respect to claims 1 and 5. Therefore, claims 11 and 14

are deemed patentable for the reasons set forth above with respect to claims 1 and 5, respectively, and for at least the following additional reasons.

The cited text in Anderson does not disclose storing any statistics on a plurality of different types of reset events. Instead, it merely discloses a single powerfail counter 347 which counts the number of times that power failure occurs during a memory access operation.

The Office Action does not state where Anderson discloses that the powerfail counter 347 is a non-volatile memory device, or provide any rationale for modifying Anderson such that the number of times that power failure occurs would be stored in a non-volatile memory area.

Furthermore, simply storing the number of times that power failure occurs would be stored in a non-volatile memory area in some cobbled-together combination of Tamaki and Koch would not allow the system to preserve data if a power failure occurred while data was being accessed. Many additional components and additional software would be required, as taught by Anderson. Furthermore, while sudden power failure may be a common occurrence in the context of Anderson's digital camera such that it might make sense to provide this extra circuitry and software, the Office Action does not provide any evidence that sudden power failure is a problem in the context of Tamaki's automobile – or that anyone would attempt to employ Anderson's camera-centric solution to such a problem in an automobile.

Therefore, no combination of the cited art could produce a method or system where a non-volatile memory area stores statistics on a plurality of different types of reset events.

Accordingly, for at least this additional reason, Applicants respectfully submit that claims 11 and 14 are patentable over the cited art.

CLAIM 16

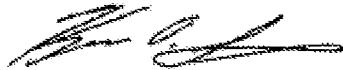
Claim 16 depends from claim 5 and is deemed patentable for at least the reasons set forth above with respect to claim 5.

CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 1-9 and 11-16 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.

Respectfully submitted,

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